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## KATTEN MUCHIN ROSENMAN LLP

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March 10, 2006	331235-00021		
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John S. Paniaguas	32347		
Phone	Fax		
312.902.5312	312.577.4532		

Total number of pages, including cover letter: pages  
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## Comments

RE: Patent Application No.: 10/696,894  
 Filing Date: October 30, 2003  
 Inventor: Gary W. Ramsden  
 Title: Automated Package Shipping Machine  
 Confirmation No. 9250

Please file the attached:  
 Transmittal Form (1 p.)  
 Fee Transmittal Form (1 pp.)  
 Pre-Appeal Brief Request for Review (1 p.)  
 Notice of Appeal (1 p.) in duplicate  
 Pre-Appeal Brief Request for Review (5 pp.)  
 Two References (totalling 10 pp.)

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Doc #:CH101 (331235-00021) 50341481v1:03/10/2006/Time:15:33

PAGE 1/21 \* RCVD AT 3/10/2006 4:36:51 PM [Eastern Standard Time] \* SVR:USPTO-EFXRF-3/5 \* DNIS:2738300 \* CSID:3129021061 \* DURATION (mm:ss):09:50

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Total Number of Pages in This Submission

Attorney Docket Number 131290-00021

Application Number	104365394
Filing Date	October 30 2003
First Named Inventor	Eric M. Rosenman
Art Unit	3829
Examiner Name	Comenzola, Fabiana R.

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Filing <input type="checkbox"/> Amended/Amendment(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express ABANDONMENT Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____  <input type="checkbox"/> Handscanned Trans or CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below) <input type="checkbox"/> Pre-Approval Brief Request for Review <input type="checkbox"/> Notice of Appeal
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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name: Katten Muchin Rosenman LLP

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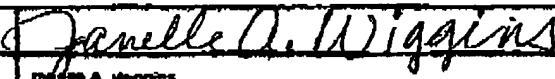
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NOT APPLICABLE DURING SPECIAL INVENTORY PERIOD. SEE 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (5) \$250.00

## CONTINUATION # (If Known)

Application Number	10/686,894
Filing Date	October 30, 2003
First named inventor	Gary W. Rasmussen
Examiner Name	Costantino, Edward R.
Art Unit	3622
Attorney Docket No.	331235-00021

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Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES	
	Fee (5)	Small Entity	Fee (5)	Small Entity	Fee (5)	Small Entity
Utility	300	150	500	250	210	100
Design	200	100	100	50	130	65
Plant	200	100	300	150	160	80
Reissue	300	150	500	250	600	300
Provisional	200	100	0	0	0	0

## 2. EXCESS CLAIM FEES

## Fee Description

Total Claims	Excess Claims		Fee (5)		Fee (5)	
	Fee (5)	Small Entity	Fee (5)	Small Entity	Fee (5)	Small Entity
- 20 or less	0	0	0	0	50	25
- 21 or more than 20	100	50	200	100	360	180
Total Claims	Excess Claims	Fee (5)	Fee (5)	Mailbox Examination Service		
- 3 or less	0	0	0	Fee (5)	Fee (5)	
- 4 or more than 3	100	50	200	100	360	180

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If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequences or computer listings under 37 CFR 1.52(c)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(C) and 37 CFR 1.16(a).

Total Sheets	Excess Sheets	Fee (5)	Fee (5)
- 100	100	100	50

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Non-English Specification, \$130 fee (no small entity discount)	Fee (5)
Other (e.g., late filing surcharge): None at present	\$250.00

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Signature	Gary S. Rasmussen	Registration No. 31,061	Telephone (312) 802-3200
Name (Print/Type)	Gary S. Rasmussen		Date 3/10/06

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<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>There are three claims pending, claims 77, 79, and 80. This action was finally rejected on February 3, 2006.</p> <p>This request is being filed with a notice of appeal.</p>			
<p>The review is requested for the reason(s) stated on the attached sheet(s).</p> <p>Note: No more than five (5) pages may be provided.</p>			
<p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee or agent of the above inventor. See 37 CFR 3.71. Statement under 37 CFR 3.73(c) is enclosed. (Form PTO/SB/06)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. <u>31,051</u> Registration number _____</p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34 Registration number of attorney under 37 CFR 1.34 _____</p>		<p><u>John S. Panagakos</u> Signature</p> <p><u>John S. Panagakos</u> Typed or printed name</p> <p><u>(312) 902-5200</u> Telephone number</p> <p><u>3-10-06</u> Date</p>	
<p>NOTE: Signatures of all the inventors or assignees of record of the above inventor or their representative(s) are required. Enclose additional forms if more than one signature is required. See below.</p> <p><input checked="" type="checkbox"/> "I declare that _____ is my true signature.</p>			

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PATENT  
Attorney Docket No. 331235-00021

## IN THE U.S. PATENT AND TRADEMARK OFFICE

Application No.: 10/696,894 )  
Filing Date: October 30, 2003 )  
Inventor(s): Gary W. Ramsden )  
Group Art Unit: 3629 )  
Examiner Name: Traci L. Smith )  
Customer No.: 27160 )  
Title: Automated Package Shipping Machine )  
Confirmation No.: 9250 )

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir:

This is a request for a pre-appeal brief of the legal and factual basis of the rejection pursuant to the Notice in the Official Gazette dated July 12, 2005. A Notice of Appeal accompanies this Request<sup>1</sup>.

Claims 77, 79 and 80 are currently pending in the Application. In a final Office Action mailed on February 3, 2006, Claims 77 and 80 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Hsieh US Patent No. 4,923,022 ("the Hsieh patent") and Pusic US

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<sup>1</sup> After disposition of this pre-appeal brief request for review, the Applicant will file an amendment to resolve the claim rejection of claim 77 under 35 USC §112.

Patent No. 5,065,000 ("the Pusic patent"). Claim 79 was rejected under 35 U.S.C. §103 (a) as being unpatentable over the Hsieh and Pusic patents further in view of Tateno US Patent No. 4,836,352 ("the Tateno reference"). It is respectfully submitted that the Examiner has failed to set forth a *prima facie* case of obviousness as required by MPEP §2143 and errors of law in contradistinction to case law handed down by the Court of Appeals for the Federal Circuit.

More particularly, § 2143 of the MPEP requires:

*"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference, or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claim combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure."*

#### **THE REFERENCES DO NOT DISCLOSE ALL OF THE ELEMENTS**

It is respectfully submitted that the references do not disclose all of the limitations of the claims. In particular, with respect to Claim 79, the claim recites at least elements which are not disclosed or suggested by any of the references:

*(a)<sup>2</sup> a processor system, in communication with said input system and said scale for and for receiving said information representative of the destination, the selected delivery option and said parcel weight and computing a cost for mailing said parcel or envelope to said destination as a function of said parcel or envelope weight and the selected delivery option;*

*(b) printer means in communication with said processor for printing a bar code label for placement on the package to be mailed by the user identifying at least said destination representative information and to print a shipping receipt for an amount including at least the cost of delivering said parcel or envelope to said destination via the delivery option chosen by said customer.*

Element (a) recites a processor system for receiving three (3) types of information:

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<sup>2</sup> The designations (a) and (b) have been added for discussion.

- Destination of the parcel or envelope
- Indication of the delivery option selected
- The weight of the parcel

The Hsieh patent discloses a plurality of letter sorting keys 22 (Fig. 1). Assuming *arguendo* that these keys 22 meet the limitation of an indication of the delivery option selected, the Hsieh patent but does not otherwise disclose a processor for receiving information relating to the destination of the parcel and compute the postage based upon the destination. In fact, the system taught by the Hsieh patent does not take into the destination of the parcel ("The postage will thereupon be calculated according to the weight of the letter and the type of mailing service which the operator selects." Hsieh, Col. 4, lines 7-9).

The Pusic patent does not disclose an operator selectable delivery option. As such, it is clear that the system disclosed in the Pusic system does not compute the postage for a parcel based in part upon a selected delivery option.

Thus, it is respectfully submitted that neither the Hsieh patent nor the Pusic patent discloses a processor system, as recited in the claims at issue, which receives information regarding the destination of the parcel; the delivery option selected and weight of the parcel and computes the postage of the parcel based upon all three variables.

Element (b) of Claim 77 recites "printer means" for printing a bar code for placement on a package to be mailed by the user identifying the destination and to print a shipping receipt which includes the cost of delivering the parcel to the destination by the selected delivery option. The Hsieh patent discloses a "stamping means 8", for printing postage on the letter or parcel. The Hsieh patent does not disclose a bar code printer or a printer for printing a receipt. The Pusic patent discloses a bar code printer and a printer for printing a receipt. However, the Pusic patent does not disclose a printer which can print a receipt for a cost based upon delivering a parcel to a destination based upon a selected delivery option for the simple reason that the system in the Pusic patent does not include a selectable delivery option. Thus, neither the Hsieh patent nor the Pusic patent discloses a printer as recited in the claims at issue for printing a receipt of the cost of delivering the parcel based in part on a selected delivery option.

PATENT  
Attorney Docket No. 331235-00021

With respect to the rejection of Claim 79, the Teleno patent was cited for disclosing a touch screen. The Teleno patent does not otherwise disclose the missing elements discussed above.

Based on the above, it is respectfully submitted that the Examiner has failed to make out a *prima facie* case of obviousness for failure to cite references which disclose all of the elements of the claims at issue.

**THE EXAMINER HAS FAILED TO SHOW A SUGGESTION TO  
COMBINE THE REFERENCES**

In paragraph 15 of the detailed action mailed on February 3, 2006, the Examiner argues that the filing dates of the references are two years prior to the priority date of the instant invention. "thus establishing knowledge of the invention." MPEP §2143 requires that "*there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference, or to combine reference teachings.*" Even assuming *arguendo*, that "knowledge" of the individual elements was known, the "knowledge" in of itself does not raise to the level of a suggestion or motivation to make the combination to arrive at the claimed invention. If anything, the "knowledge" as taught by the references was to not take into account the destination of the parcel in computing the postage and printing customer receipts. As such, it is respectfully submitted that, it can hardly be said that any suggestion or motivation to combine various features was gained from the "knowledge" in the cited references. As set forth by the Court of Appeals for the Federal Circuit in *Teleflex v. KSR International Co.*, 119 Fed. Appx. 282 (Fed. Cir. 2005). "...the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." Knowledge alone is insufficient to satisfy the requirement that the Examiner must still provide a showing of a motivation to make the claimed combination ("...the test of whether it would have been obvious to select specific teachings must still be met by identification of some suggestion, teaching, or suggestion in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention. *In re Scott Johnston*, 2006 US App. Lexis 2282 (Fed. Cir. 2006). Copy

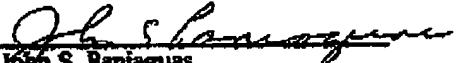
PATENT  
Attorney Docket No. 331235-00021

attached.). Based on the above, it is respectfully submitted that the Examiner has failed to show a suggestion to make the combination suggested as required by MPEP §2143.

For all of the above reasons, it is respectfully submitted that the Examiner has failed to set forth a *prima facie* case of obviousness.

Respectfully submitted,

KATTEN MUCHIN ROSENMAN LLP

By: 

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Page 5 of 5

Date: 03/10/2006 131235-00021 523-1 147/000007 Time: 11:02

**Westlaw.**

119 Fed.Appx. 282  
 119 Fed.Appx. 282  
 (Cite as: 119 Fed.Appx. 282)

Page 1

**H****Briefs and Other Related Documents**

This case was not selected for publication in the Federal Reporter.

NOTE: Pursuant to Fed.Cir.R. 47.6, this order is not citable as precedent. It is public record.

Please use FIND to look at the applicable circuit court rule before citing this opinion. Federal Circuit Rule 47.6. (FIND CTAF Rule 47.6.)

United States Court of Appeals,  
 Federal Circuit.  
 TELEFLEX, INCORPORATED and Technology  
 Holding Company, Plaintiffs-Appellants,  
 v.  
 KSR INTERNATIONAL CO., Defendants-Appellee.  
 No. 04-1152.

Jan. 6, 2005.

**Background:** Owner of patent for position-adjustable vehicle pedal assembly sued competitor for infringement. The United States District Court for the Eastern District of Michigan, 298 F.Supp.2d 581, granted summary judgment for competitor on ground of obviousness. Patent owner appealed.

**Holdings:** The Court of Appeals, Schall, Circuit Judge, held that:

- (1) district court applied incomplete teaching-suggestion-motivation test, and
- (2) under that test, genuine issues of material fact existed, precluding summary judgment.

Vacated and remanded.

**West Headnotes**

**[1] Patents**  **16.5(1)**  
**291k16.5(1) Most Cited Cases**

Before finding patent for position-adjustable vehicle pedal assembly invalid as obvious by applying teaching-suggestion-motivation test, district court should have made specific findings as to suggestion or motivation to combine teachings of prior patent with electronic control in particular manner claimed by pedal assembly patent.

**[2] Patents**  **323.2(3)****291k323.2(3) Most Cited Cases**

Genuine issue of material fact as to whether person of ordinary skill in the art would have been motivated, at time position-adjustable vehicle pedal assembly was invented, to attach electronic control to support structure of pedal assembly disclosed by prior patent precluded summary judgment invalidating later patent as obvious.

**[3] Patents**  **323.2(5)****291k323.2(5) Most Cited Cases**

By crediting movant's expert declarant and discrediting two declarants offered by nonmovant, district court made improper credibility determinations at summary judgment stage of patent infringement case.

**Patents**  **328(2)****291k328(2) Most Cited Cases**

5,010,782, 5,063,811, 5,460,061, 5,819,593. Cited as Prior Art.

**Patents**  **328(2)****291k328(2) Most Cited Cases**

6,237,565. Cited.

\*283 Before MAYER [FN\*] SCHALL, and PROST Circuit Judges.

FN\* Judge Haldane Robert Mayer vacated the position of Chief Judge on December 24, 2004.

**DECISION**

SCHALL, Circuit Judge.

Teleflex Incorporated and Technology Holding Company (collectively, "Teleflex") sued KSR International Co. ("KSR") in the United States District Court for the Eastern District of Michigan for infringement of U.S. Patent No. 6,237,565 B1 ("the '565 patent"). On December 12, 2003, the district court granted summary judgment in favor of KSR, after determining that claim 4 of the '565 patent, the sole claim at issue, was invalid by reason of obviousness. Teleflex Inc v KSR Int'l Co, 298 F.Supp.2d 581 (E.D.Mich.2003). Teleflex now appeals the district court's decision. For the reasons set forth below, we vacate the grant of summary

119 Fed.Appx. 282  
 119 Fed.Appx. 282  
 (Cite as: 119 Fed.Appx. 282)

judgement and *remand* the case to the district court for further proceedings.

## DISCUSSION

### I.

Claim 4 of the '565 patent relates to an adjustable pedal assembly [FN1] for use with automobiles having engines that are controlled electronically with a device known as an electronic throttle control. As such, \*284 the assembly of claim 4 incorporates an electronic pedal position sensor (referred to in claim 4, and throughout this opinion, as an "electronic control"). The electronic control is responsive to the pedal pivot and thereby generates an electrical signal corresponding to the relative position of the gas pedal between the rest and applied positions. Claim 4 specifically provides for an assembly wherein the electronic control is mounted to the support bracket of the assembly. This configuration avoids movement of the electronic control during adjustment of the pedal's position on the assembly. Claim 4 reads:

**FN1** An adjustable pedal assembly (e.g., gas, break, or clutch) allows the location of the pedal to be adjusted to accommodate a particular driver's height.

A vehicle control pedal apparatus (12) comprising:  
 a support (18) adapted to be mounted to a vehicle structure (20);  
 an adjustable pedal assembly (22) having a pedal arm (14) moveable in fore [sic] and aft directions with respect to said support (18);  
 a pivot (24) for pivotally supporting said adjustable pedal assembly (22) with respect to said support (18) and defining a pivot axis (26); and  
 an electronic control (28) attached to said support (18) for controlling a vehicle system;  
 said apparatus (12) characterized by said electronic control (28) being responsive to said pivot (24) for providing a signal (32) that corresponds to pedal arm position as said pedal arm (14) pivots about said pivot axis (26) between rest and applied positions wherein the position of said pivot (24) remains constant while said pedal arm (14) moves in fore and aft directions with respect to said pivot (24).

The numbers in claim 4 correspond to the numbers in Figure 2 of the '565 patent.

The specification of the '565 patent indicates that prior-art pedal assemblies incorporating an electronic control suffered from being too bulky, complex, and expensive to manufacture. See '565 patent, col. 1, ll.

48-53. It was this problem that the '565 patent set out to address. See *id.* col. 2, ll. 2-5.

Teleflex sued KSR in the Eastern District of Michigan, alleging that KSR's adjustable pedal assembly infringed claim 4 of the '565 patent. KSR moved for summary judgment of invalidity of claim 4 based on obviousness under 35 U.S.C. § 103. The district court granted KSR's motion after determining that claim 4 was obvious in view of a combination of prior art references. Teleflex timely appealed the district court's decision. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

### II.

This court reviews a district court's grant of summary judgment *de novo*. *Torpharm Inc. v. Runbary Pharms. Inc.*, 336 F.3d 1322, 1326 (Fed.Cir.2003). "In a patent case, as in any other, summary judgment may be granted when there are no disputed issues of material fact, ... or when the non-movant cannot prevail on the evidence submitted when viewed in a light most favorable to it." *Knoll Pharm. Co. v. Teva Pharms. USA Inc.*, 367 F.3d 1381, 1383 (Fed.Cir.2004). The movant carries the initial burden of proving that there are no genuine issues of material fact. *Celoxex Corp. v. Catren*, 471 U.S. 317, 322-24, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). If the movant shows a *prima facie* case for summary judgment, then the burden of production shifts to the non-movant to present specific evidence indicating there is a genuine issue for trial. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). "When ruling on a motion for summary judgment, all of the non-movant's evidence is to be credited, and all justifiable inferences are to be drawn in the non-movant's favor." *Caterpillar Inc. v. Deere & Co.*, 224 F.3d 1374, 1379 (Fed.Cir.2000). "Where the evidence is conflicting or credibility determinations are required, the judgment should be vacated rather than reversed, and the case should be remanded for further proceedings." *Jones v. Hardy*, 727 F.2d 1524, 1531 (Fed.Cir.1984).

"The grant of summary judgment of invalidity for obviousness must be done on a claim by claim basis." *Knoll Pharm.*, 367 F.3d at 1383. Because patents are presumed valid, "[t]he accused infringer must prove by clear and convincing evidence that each claim that is challenged cannot reasonably be held to be non-obvious." *Id.*; see also *Manarech Knitting Mach. Corp. v. Sulzer Morar GmbH*, 139 F.3d 877, 881 (Fed.Cir.1998). Clear and convincing evidence exists when the movant "place[s] in the mind of the ultimate

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fact finder an abiding conviction that the truth of its factual contentions are 'highly probable.' " *Colorado v. New Mexico*, 467 U.S. 310, 316, 104 S.Ct. 2433, 81 L.Ed.2d 247 (1984).

A patent claim is obvious, and thus invalid, when the differences between the claimed invention and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103; see also *Graham v. John Deere Co.*, 383 U.S. 1, 14, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966); *In re Dembiczak*, 175 F.3d 994, 998 (Fed.Cir.1999). While obviousness is ultimately a legal determination, it is based on several underlying issues of fact, namely: (1) the scope and content of the prior art; (2) the level of skill of a person of ordinary skill in the art; (3) the differences between the claimed invention and the teachings of the prior art; and (4) the extent of any objective indicia of non-obviousness. See *Graham*, 383 U.S. at 17-18, 86 S.Ct. 684. When obviousness is based on the teachings of multiple prior art references, the movant must also establish some "suggestion, teaching, or motivation" that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed. See *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359-60 (Fed.Cir.1999); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1572 (Fed.Cir.1996). The nonmovant may rebut a *prima facie* showing of obviousness with evidence refuting the movant's case or with other objective evidence of nonobviousness. See *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed.Cir.1999).

"The reason, suggestion, or motivation to combine [prior art references] may be found explicitly or implicitly: 1) in the prior art references themselves; 2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field; or 3) from the nature of the problem to be solved, leading inventors to look to references relating to possible solutions to that problem." *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed.Cir.2000) (quoting *Pro-Mold*, 75 F.3d at 1572). "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *Dembiczak* 175 F.3d at 999; see also *Ruiz* 234 F.3d at 665 (explaining that the temptation to engage in impermissible hindsight is especially

strong with seemingly simple mechanical inventions). This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight." *Dembiczak*, 175 F.3d at 999. Therefore, we have consistently held that a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings in the particular manner claimed. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed.Cir.2000) ("Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination *in the manner claimed*." (emphasis added)); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed.Cir.1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination *in the manner claimed*." (emphasis added)).

### III.

On appeal, Teleflex argues that we should vacate the district court's grant of summary judgment and remand the case because the district court committed multiple errors in its obviousness determination. First, Teleflex urges that the district court erred as a matter of law by combining prior art references based on an incorrect teaching-suggestion-motivation test. Second, it contends that genuine issues of material fact still remain as to whether a person of ordinary skill in the art would have considered it obvious to combine prior art in the manner stated in claim 4. Finally, Teleflex argues that the district court erred by not properly considering the commercial success of Teleflex's patented assembly and by failing to give adequate deference to the patentability determination of the U.S. Patent and Trademark Office ("PTO").

KSR responds that the district court did apply the correct teaching-suggestion-motivation test, and that, under that test, the court correctly concluded that no genuine issues of material fact existed so as to prevent the grant of summary judgment. KSR contends that the district court properly discounted the declarations of Teleflex's experts because their opinions were based on mere legal conclusions. KSR also contends that the district court properly dismissed Teleflex's evidence of commercial success because Teleflex failed to establish a nexus between commercial success and the claimed invention.

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Finally, KSR argues that the district court gave proper deference to the PTO.

We agree with Teleflex that the district court did not apply the correct teaching-suggestion-motivation test. We also agree that, under that test, genuine issues of material fact exist, so as to render summary judgment of obviousness improper. For these reasons, we vacate the decision of the district court and remand for further proceedings consistent with this opinion.

#### IV.

After comparing the teachings of the prior art with claim 4 of the '565 patent, the district court concluded that, at the time of the invention, all of the limitations of claim 4 existed in the prior art. The court explained that U.S. Patent No. 5,010,782, issued to Asano et al. ("the Asano patent"), disclosed all of the structural limitations of claim 4 with the exception of the electronic control. Teleflex, 298 F.Supp.2d at 592 ("Asano teaches an adjustable pedal assembly pivotally mounted on a support bracket with the pedal moving in a fore and aft directions with respect to the support and the pivot remaining in a constant position during movement of the pedal arm."). Electronic controls were "287 well known in the prior art. *Id.* Consequently, after finding a person of ordinary skill in the art would have been motivated to combine Asano and electronic control references, the district court granted KSR's motion for summary judgment of invalidity by reason of obviousness.

The district court based its finding of a suggestion or motivation to combine largely on the nature of the problem to be solved by claim 4 of the '565 patent. *Id.* at 593-94. The court determined from the patent's specification that the invention of the '565 patent was intended to "solve the problem of designing a less expensive, less complex and more compact [assembly] design." *Id.* at 593. The court then explained that U.S. Patent No. 5,819,593, issued to Rixon et al. ("the Rixon '593 patent"), [FN2] also "suffered from being too complex because the pedal position sensor is located in the pedal housing and its fore and aft movement with the adjustment of the pedal could cause problems with wire failure. Thus, the solution to the problem required an electronic control that does not move with the pedal arm while the pedal arm is being adjusted by the driver." *Id.* at 594. The court then concluded that "a person with ordinary skill in the art with full knowledge of Asano and the modular pedal position sensors would be motivated to combine the two references to avoid the problems with Rixon '593." *Id.*

[FN2]. As explained by the district court, the Rixon '593 patent teaches the combination of an electronic control with an adjustable pedal assembly. The Rixon '593 patent and claim 4 differ, however, in that the electronic control of Rixon is attached to the pedal housing instead of the support bracket. See Teleflex, 298 F.Supp.2d at 594. The electronic control of the Rixon reference consequently moves during adjustment of the pedal assembly. *Id.* The electronic control of claim 4 does not move during adjustment of the pedal assembly.

The district court also found an express teaching to attach the electronic control to the support bracket of a pedal assembly based on the disclosure of U.S. Patent No. 5,063,811, issued to Smith et al. ("the Smith patent"). The court explained that Smith teaches the use of a "rotary potentiometer ... attached to a fixed support member and responsive to the pedal's pivot shaft." *Id.* Moreover, the court stated that Smith provided express teachings as to the desirability of attaching the electronic control to a fixed support member in order to avoid the wire failure problems disclosed in the Rixon '593 patent and solved by the '565 patent: "[T]he wiring to the electrical components must be secure from the possibility of chafing which will eventually result in electrical failure. Thus, the pedal assemblies must not precipitate any motion in the connecting wires themselves...." *Id.* (quoting the Smith patent, col. 1, ll. 33-38).

Finally, the district court explained that the prosecution history of the '565 patent bolstered its finding of a suggestion or motivation to combine the Asano and electronic control references. The court explained that the patent examiner initially rejected the '565 patent in view of the teachings of U.S. Patent No. 5,460,061, issued to Redding et al. ("the Redding patent"), and the Smith patent. The examiner stated that the Redding patent disclosed the assembly structure of claim 4 and that Smith disclosed the electronic control attached to the assembly support structure. The patentee overcame the rejection, the court explained, by adding the limitation requiring the position of the assembly's pedal pivot to remain constant during adjustment of the assembly. (The position of the pedal pivot of the Redding patent does not remain constant during adjustment of the assembly position.) \*288 However, the Asano patent discloses an assembly where the position of the pivot remains constant during adjustment of the pedal assembly. Therefore, the district court reasoned, had

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Asano been cited to the patent examiner, the examiner would have rejected claim 4 as obvious in view of the Asano and Smith patents. *Id.* at 595.

[1] We agree with Teleflex that the district court's analysis applied an incomplete teaching-suggestion-motivation test in granting KSR summary judgment. This is because the district court invalidated claim 4 of the '565 patent on obviousness grounds without making "finding[s] as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed." *Kutzab*, 217 F.3d at 1371. Under our case law, whether based on the nature of the problem to be solved, the express teachings of the prior art, or the knowledge of one of ordinary skill in the art, the district court was required to make specific findings as to whether there was a suggestion or motivation to combine the teachings of Asano with an electronic control in the particular manner claimed by claim 4 of the '565 patent. See *Kutzab*, 217 F.3d at 1371; *Rouffet*, 149 F.3d at 1357. That is, the district court was required to make specific findings as to a suggestion or motivation to attach an electronic control to the support bracket of the Asano assembly.

The district court correctly noted that the nature of the problem to be solved may, under appropriate circumstances, provide a suggestion or motivation to combine prior art references. However, the test requires that the nature of the problem to be solved be such that it would have led a person of ordinary skill in the art to combine the prior art teachings in the particular manner claimed. See *Rouffet*, 149 F.3d at 1357. We have recognized this situation when two prior art references address the precise problem that the patentee was trying to solve. See *Ruiz*, 357 F.3d at 1276 ("This record shows that the district court did not use hindsight in its obviousness analysis, but properly found a motivation to combine because the two references address precisely the same problem of underpinning existing structural foundations."). In this case, the Asano patent does not address the same problem as the '565 patent. The objective of the '565 patent was to design a smaller, less complex, and less expensive electronic pedal assembly. The Asano patent, on the other hand, was directed at solving the "constant ratio problem." [FN3] The district court's reliance on the problems associated with the Rixon '593 patent similarly fails to provide a sufficient motivation to combine. This is because the Rixon '593 patent does not address the problem to be solved by the '565 patent, rather, it suffers from the

problem. The court did not explain how suffering from the problem addressed by the '595 patent would have specifically motivated one skilled in the art to attach an electronic control to the support bracket of the Asano assembly.

[FN3] The constant ratio problem refers to the problem of creating an assembly where the force required to depress the pedal remains constant irrespective of the position of the pedal on the assembly. See Asano patent, col. 1, l. 48-col. 2, l. 13.

Neither do we agree with the district court's reliance on the express teachings of the Smith patent. This is because the statement in the Smith patent that "the pedal assemblies must not precipitate any motion in the connecting wires," does not necessarily go to the issue of motivation to attach the electronic control on the support bracket of the pedal assembly. In other words, solving the problem of wire "289 chafing is a different task than reducing the complexity and size of pedal assemblies. What is more, the Smith patent does not relate to adjustable pedal assemblies; therefore, it does not address the problem of wire chafing in an adjustable pedal assembly.

Our view of the case is not altered by the '565 patent's prosecution history. That is because a court's task is not to speculate as to what an examiner might have done if confronted with a piece of prior art. Rather, a court must make an independent obviousness determination, taking into account the statutory presumption of patent validity. See *Torpharm*, 336 F.3d at 1329-30 ("[W]here the factual bases of an examiner's decision to allow a claim have been undetermined—as in other cases where prior art not before the examiner is brought to light during litigation—a court's responsibility is not to speculate what a particular examiner would or would not have done in light of the new information, but rather to assess independently the validity of the claim against the prior art under section 102 or section 103. Such determination must take into account the statutory presumption of patent validity."). [FN4]

[FN4] Noting Teleflex's argument that the district court did not give adequate deference to the PTO, we do not discern anything in the record indicating the district court failed to properly defer to the PTO. Nevertheless, we reiterate that, on remand, the district court must independently assess the evidence and determine whether KSR has provided clear and convincing evidence

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indicating invalidity of claim 4 by reason of obviousness.

[2] We also agree with Teleflex that the presence of genuine issues of material fact rendered summary judgment inappropriate. KSR, in the first instance, failed to make out a *prima facie* case of obviousness. The only declaration offered by KSR--a declaration by its Vice President of Design Engineering, Larry Willemsen--did not go to the ultimate issue of motivation to combine prior art, i.e. whether one of ordinary skill in the art would have been motivated to attach an electronic control to the support bracket of the assembly disclosed by Asano. Mr. Willemsen did state that an electronic control "could have been" mounted on the support bracket of a pedal assembly. (Willemsen Decl. at ¶ 33, 36, 39.) Such testimony is not sufficient to support a finding of obviousness, however. *See, e.g., In re Deuel*, 51 F.3d 1552, 1559 (Fed.Cir.1995) ("Obvious to try" has long been held not to constitute obviousness.). Mr. Willemsen also provided the following as a "specific motivation to combine" an electronic control with an adjustable pedal assembly:

[A]n increasing number of vehicles sold in the United States came equipped with electronic throttle control systems because such systems offered various operational advantages over cable-actuated throttle control systems.... In order to function in a vehicle whose engine incorporated an electronic throttle control, the adjustable pedal assembly ... would have had to be coupled to an electronic pedal position sensor.

(Willemsen Decl. at ¶ 34, 37, 39.) This statement may be factually correct. However, the issue is not whether a person of skill in the art had a motivation to combine the electronic control with an adjustable pedal assembly, but whether a person skilled in the art had a motivation to attach the electronic control to the support bracket of the pedal assembly.

[3] In addition, Teleflex offered two declarants--Clark J. Radcliffe, Professor of Mechanical Engineering at Michigan State University; and Timothy L. Andresen, a former engineer at Ford Motor Company and McDonnell-Douglas Corporation--\*290 in rebuttal of the declaration of Mr. Willemsen. Mr. Radcliffe stated, *inter alia*, that "[t]he location of the electronic control" (Radcliffe Decl. at ¶ 15) in claim 4 "was a simple, elegant, and novel combination of features," (Radcliffe Decl. at ¶ 16) as opposed to the Rixon '593 patent's attachment of the electronic control to the assembly housing, which was both electrically and mechanically complex (Radcliffe Decl. at ¶ 17). Mr. Andresen

also stated that the non-obviousness of claim 4 was reflected in Rixon's choice to mount the electronic control to the assembly housing instead of the assembly's support bracket (Andresen Decl. at ¶ 5.) At the summary judgment stage of a proceeding, it is improper for a district court to make credibility determinations. *See, e.g., Jones*, 727 F.2d at 1531. Therefore, by crediting KSR's expert declarant and discrediting the two declarants offered by Teleflex, the district court erred as a matter of law.

## V.

In sum,

(1) We hold that, in granting summary judgment in favor of KSR, the district court erred as a matter of law by applying an incomplete teaching-suggestion-motivation test to its obviousness determination. The correct standard requires a court to make specific findings showing a teaching, suggestion, or motivation to combine prior art teachings in the particular manner claimed by the patent at issue.

(2) Under this standard, we hold that genuine issues of material fact exist as to whether a person of ordinary skill in the art would have been motivated, at the time the invention was made, to attach an electronic control to the support structure of the pedal assembly disclosed by the Asano patent.

(3) We consequently *vacate* the decision of the district court and *remand* the case for further proceedings on the issue of obviousness, and, if necessary, proceedings on the issues of infringement and damages.

Each party shall bear its own costs.

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• [04-1152 \(Docket\)](#) (Dec. 29, 2003)

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IN RE SCOTT E. JOHNSTON

05-1321 (Serial No. 09/312,992)

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

2006 U.S. App. LEXIS 2282

January 30, 2006, Decided

**PRIOR HISTORY:** [\*]Appealed from: United States Patent and Trademark Office, Board of Patent Appeals and Interferences.

**DISPOSITION:** AFFIRMED.

**CASE SUMMARY:**

**PROCEDURAL POSTURE:** Appellant patent applicant challenged a decision of United States Patent and Trademark Office Board of Patent Appeals and Interferences, which affirmed the patent examiner's rejection of all the claims in his patent application, entitled "large diameter spirally formed pipe," as anticipated or obvious.

**OVERVIEW:** The court agreed that claim 1, which showed a slot or storage tank in the form of a spirally formed pipe of an elongated strip of material having a diameter larger than 15 feet, was anticipated because every claim element was shown in cited references. Moreover, the additional limitation in claim 3, providing that the wall could be smooth, corrugated, or profiled with increased dimensional proportions as pipe size increased, was anticipated as written. As for claims 5 through 9, which stood or fell together, the court agreed with the Board that a reference contained the motivation or suggestion to combine its large diameter pipe with the teachings of another reference regarding steel. The first reference showed the suitability of spirally-formed pipe in large cylindrical/shaped structures, and the second reference showed large cylindrical/shaped structures. These teachings were in the same field of endeavor and dealt with related subject matter. The court agreed with the Board that it would have been obvious to combine the two references' teachings to provide spirally formed pipe for large diameter and shaped structures.

**OUTCOME:** The decision was affirmed.

LexisNexis(R) Headnotes:

*Patent Law > Claims & Specifications > Claim Language > General Overview*

[HN1] It is well established that dictionary definitions must give way to the meaning imparted by the specification in a patent claim.

*Patent Law > Nonobviousness > Elements & Tests > Prior Art*

[HN2] Precedent in the context of patent infringement requires that to find a combination obvious there must be some teaching, suggestion, or motivation in the prior art to select the teachings of separate references and combine them to produce the claimed combination. An explicit teaching that identifies and selects elements from different sources and states that they should be combined in the same way as in the invention at issue, is rarely found in the prior art. As precedent illustrates, many factors are relevant to the motivation-to-combine aspect of the obviousness inquiry, such as the field of the specific invention, the subject matter of the references, the extent to which they are in the same or related fields of technology, the nature of the advance made by the applicant, and the maturity and conception of the field. Ob-

jective indicia are also relevant for the commercial response to an invention is a useful control upon hindsight evaluation of obviousness.

*Patent Law > Nonobviousness > Elements & Tests > General Overview*

[HN3] Precedent in the context of patent infringement recognizes that the suggestion or motivation to combine references does not have to be stated expressly, rather it may be shown by reference to the prior art itself, to the nature of the problem solved by the claimed invention, or to the knowledge of one of ordinary skill in the art. These criteria serve to impart objectivity to the determination of obviousness.

**COUNSEL:** Scott E. Johnston, of Cedarwood, California, Pro se.

John M. Whealan, Solicitor, Office of the Solicitor, United States Patent and Trademark Office, of Arlington, Virginia. With him on the brief were Mary L. Kelly and Thomas W. Krause, Associate Solicitors.

**JUDGES:** Before MICHEL, Chief Judge, NEWMAN and BRYSON, Circuit Judges.

**OPINION BY:** NEWMAN

**OPINION:** NEWMAN, Circuit Judge.

Scott E. Johnston appeals the decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences, affirming the examiner's rejection of all the claims in patent application No. 09/312,992, entitled "Large Diameter Spirally Formed Pipe," as anticipated or obvious. n1 We affirm the decision of the Board.

n1 In re Johnston, No. 2004-0533 (Bd. Pat. App. & Inter. April 22, 2004).

#### BACKGROUND

Mr. Johnston's patent application is for large diameter spiral pipe, in excess of 12 or 15 feet in diameter, formed by bending a long sheet of metal or other ductile material into a helix and then joining the adjacent edges by welding or other means to form [\*\*2] a pipe into shapes such as cylindrical or arched. The claims at issue are directed to the spiral pipes themselves. The following claims are representative:

1. A spirally formed pipe, comprising an elongated strip of ductile material formed into jointed, adjacent helical convolutions, having a diameter larger than 15 feet.
5. A spirally formed pipe, comprising an elongated strip of ductile material formed

into jointed, adjacent helical convolutions, reshaped into an arch shape, having a beginning diameter above 144 inches.

9. A spirally formed pipe larger than 144 inches in diameter before reshaping into an arch shape.

The Board rejected the claims as unpatentable in view of several references describing silos, storage tanks, and other cylindrical structures formed from strips of metal bent into a helical shape and joined at the edges. U.S. Patent No. 2,751,622 to Reed describes a silo of about 20 feet in diameter, constructed by winding several metal sheets in a series of helical convolutions and holding the edges together. U.S. Patent No. 3,380,147 to McDonald shows a spirally wound silo of about 21 feet in diameter wherein sheet steel is wound into a helical [\*\*3] configuration using guides and crimping rollers; the edges are then welded together to form the wall of the silo. U.S. Patent No. 4,142,284 to Stoeber shows a spirally wound storage tank of approximately 30 feet in diameter. U.S. Patent No. 4,121,747 to McFatter shows large storage tanks, typically 31 feet in diameter, constructed from strip metal wound into a spiral pattern and butt-welded together.

Also cited by the examiner was a brochure for a manufacturing system sold by PRD Cartec, wherein spirally formed tubes of corrugated metal, up to 15 feet in diameter, are described for use in low cost housing units, storm sewers, drainage tubes, and culverts. The examiner also cited a "Handbook of Steel" directed to spirally formed steel pipes and arches for use in culverts, storm sewers, subdrains, spillways, underpasses and service tunnels. The Handbook shows steel pipe in diameters of 24 feet or more, and shows such pipe deformed into elliptical shapes and arches of various configurations.

The Board adopted the dictionary definition of "pipe" as "a tubular or cylindrical object, part or passage," and held that on this definition large cylindrical structures such as silos and storage [\*\*4] tanks are "pipes" within the meaning and scope of the claims, rendering the claims obvious or anticipated. Mr. Johnston challenges this dic-

tionary definition as unduly broad, stating that the prior art structures would not be understood as included in the meaning of "pipe" by persons of skill in the field of the invention. Mr. Johnston suggests that "pipe" in the construction trades is well understood to mean structures used to carry fluids or as electrical conduits, and that this understanding of the word "pipe" does not include silos and storage tanks.

[HN1] It is well established that dictionary definitions must give way to the meaning imparted by the specification. *Phillips v. AWH Industries*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*), but in this case Mr. Johnston himself gave "pipe" the broad meaning he now criticizes. He states in the specification that his pipes may be used as overpasses, storage buildings, houses, silos, and water tanks, exalts the value of his invention in such large-diameter structures, and does not attempt to disclaim such scope from his claims.

The Board observed that the claims were not limited by the method of forming or shaping the spiral [¶5] pipe, and held that such pipes in the claimed size range were shown or rendered obvious in the cited references. Thus claim 1 was found anticipated by each of the Reed, McDonald, and Stauber patents, for each shows a silo or storage tank in the form of a spirally formed pipe of an elongated strip of material having a diameter larger than 15 feet, as in claim 1. Mr. Johnston did not separately argue dependent claims 2 and 4. We agree that those claims were correctly held to be anticipated, for every claim element is shown in each of these references.

Claim 3, which depends from claims 1 and 2, contains the additional limitation "further including that said wall may be smooth, corrugated, or profiled with increased dimensional proportions as pipe size is increased." The Board ruled that this additional content did not narrow the scope of the claim because these limitations are stated in the permissive term "may." As a matter of linguistic precision, optional elements do not narrow the claim because they can always be omitted. We affirm the Board's ruling that claim 3 as written is anticipated.

Claims 5 through 9 were agreed to stand or fall together. The Board found that the subject [¶6] matter of claim 9 would have been obvious from the combination of the PRD Carter brochure and the Handbook of Steel. PRD Carter shows spirally formed pipe that is larger than 12 feet in diameter but not arched. The Handbook shows examples of helically formed pipe that may be reshaped into "elliptical pipe, horseshoe, arches and other shapes," although each shape is less than 12 feet in diameter. The Board found that it would have been obvious to reshape the PRD Carter 15 foot diameter pipe into the shapes in the Handbook, citing the Handbook's teaching that round or arched pipe can be used as storm sewers, drainage tubes,

and culverts. Mr. Johnston argues that there is inadequate motivation to combine these two references, on the basis that there is not a specific teaching in the prior art that this subject matter may be combined. He also argues that the Handbook teaches away from making such a combination.

[HN2] Precedent requires that to find a combination obvious there must be some teaching, suggestion, or motivation in the prior art to select the teachings of separate references and combine them to produce the claimed combination. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385 (Fed. Cir. 2001) [\*7] ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention."); *In re Dance*, 160 F.3d 1339, 1343 (Fed. Cir. 1998) ("When the references are in the same field as that of the applicant's invention, knowledge thereof is presumed. However, the test of whether it would have been obvious to select specific teachings and combine them as did the applicant must still be met by identification of some suggestion, teaching, or motivation in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention."); *In re Pipe*, 637 F.2d 1071, 1075 (Fed. Cir. 1981) (there must be "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references"); *Interconnect Planning Corp. v. Fed.*, 774 F.2d 1132, 1143 (Fed. Cir. 1985) ("When prior art [¶8] references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself"). An explicit teaching that identifies and selects elements from different sources and states that they should be combined in the same way as in the invention at issue, is rarely found in the prior art. As precedent illustrates, many factors are relevant to the motivation-to-combine aspect of the obviousness inquiry, such as the field of the specific invention, the subject matter of the references, the extent to which they are in the same or related fields of technology, the nature of the advance made by the applicant, and the maturity and congestion of the field. Objective factors are also relevant, see *Graham v. John Deere Co.*, 383 U.S. 1, 26 S. Ct. 624, 15 L. Ed. 2d 545 (1966), for the commercial response to an invention is a useful control upon hindsight evaluation of obviousness.

These considerations have been extensively illustrated. E.g., *Vulcan Engineering Co., Inc. v. Fata Aluminum, Inc.*, 278 F.3d 1366, 1373 (Fed. Cir. 2002) (continuous lost foam casting); [\*9] *Karsten Mfg. Corp.*

*v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385 (Fed. Cir. 2001) (golf club). [HN3] Precedent has also recognized that "the suggestion or motivation to combine references does not have to be stated expressly, rather it may be shown by reference to the prior art itself, to the nature of the problem solved by the claimed invention, or to the knowledge of one of ordinary skill in the art." *Medical Instrumentation and Diagnostics Corp. v. Elektro AB*, 344 F.3d 1205, 1221-22 (Fed. Cir. 2003). These criteria have served to impart objectivity to the determination of obviousness. See *In re Raufer*, 149 F.3d 1350, 1358 (Fed. Cir. 1998) (obviousness requires proof "that the skilled artisan . . . would select the elements from the cited prior art references for combination in the manner claimed").

The Board found motivation to combine the teachings of the Steel Handbook and PRD Cortec, in that both references deal with the same field of technology, and both show spirally formed pipe of large diameter. The Handbook teaches the interchangeability of round and arched pipe in various applications, and recognizes the need to provide greater [\*10] capacity without increasing height, such as for use in a culvert under a road. The Handbook also teaches that spirally-formed round pipe can be re-shaped into arch shapes to provide greater cross-sectional area for a given height. PRD Cortec teaches the formation of a 15-foot diameter spirally-formed pipe, but does not explicitly show deforming such pipe into other shapes, such as arches.

Mr. Johnston argues that it would not be obvious to combine these teachings, noting that the Handbook describes only spirally-formed arched-steel pipe less than 12 feet in diameter and arched steel pipe made of structural plate bolted together with diameters of over 25 feet, whereas PRD Cortec shows only round spirally-formed pipe. He argues that the Handbook suggests that large-diameter arched-pipe should not be formed helically, but should be bolted together from structural plate. The Handbook states:

Corrugated metal pipe was first developed and used for culverts in 1896. As experience was gained in the use of this thin-walled, lightweight, shop fabricated pipe, the diameters gradually increased to 96 in. and larger. Fill heights became greater, even exceeding 100 ft. A further development, [\*11] in 1931, was structural plate pipe with larger corrugations, for field assembly. Diameters and arch spans beyond 25 ft. have been successfully installed.

Handbook at 39. This statement and the other examples in the Handbook were held by the Board to teach the shapes and dimensions of known steel construction products, and not to negate the use of spiral forms. The Board held that use of ordinary skill in this field would have been motivated, by these teachings, to produce large-diameter spirally-formed pipe and to shape them into arch shapes:

In our view, PDR's teaching of a 15 foot diameter spirally formed pipe usable as an irrigation pipe, a drainage tube, a sewer, or a culvert combined with the Handbook's teaching of reshaping spirally formed pipes (less than 12 foot diameter) used for culverts and drainage into an arch shape would have made it obvious at the time the invention was made to a person of ordinary skill in the art to reshape PDR's 15 foot diameter spirally formed pipe into an arch shape as taught by Handbook. The motivation for this change comes not from applicant's disclosure but from the clear teachings of the applied prior art. In that regard, [\*12] Handbook teaches using either (1) round spirally formed pipes, or (2) arch shaped spirally formed pipes for use in culverts and drainage. This teaching of two alternative cross-sections provides the necessary motivation for an artisan to have modified the round spirally formed pipe of PDR into an arch shape.

Bd. op. at 20-21.

We agree with the Board that PRD Cortec contains the motivation or suggestion to combine its large diameter pipe with the teachings of the Handbook. PRD Cortec shows the suitability of spirally-formed pipe in large cylindrical/shape structures, and the Handbook shows large cylindrical/shape structures. These teachings are in the same field of endeavor and deal with related subject matter. We agree with the Board that it would have been obvious to combine the PRD Cortec and Handbook's teachings to provide spirally formed pipe for large diameter and shaped structures. That decision is

AFFIRMED.

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